

What is claimed is:

- 1 1. A spindle motor for a slim optical disk apparatus, said spindle motor comprises:
 - 2 a stator;
 - 3 a rotor; and
 - 4 a circuit board being within the range covered by said rotor, said circuit board
 - 5 has a plurality of electronic components used on said spindle motor and a plurality of
 - 6 electric contacts for connecting an external connecting piece;
 - 7 a mounting plate used at least for fixing said circuit board, wherein said
 - 8 mounting plate has an area in correspondence by position with said electric contacts
 - 9 of said circuit board, said area provides a space required for connecting of said
 - 10 electric contacts with said external connecting piece.
- 1 2. The spindle motor for a slim optical disk apparatus as in claim 1, wherein
- 2 said mounting plate is within said range covered by said rotor.
- 1 3. The spindle motor for a slim optical disk apparatus as in claim 1, wherein
- 2 thickness of said slim optical disk apparatus for said spindle motor is 5-17 cm.
- 1 4. The spindle motor for a slim optical disk apparatus as in claim 1, wherein
- 2 said mounting plate has a vacant area in correspondence by position with said
- 3 electric contacts of said circuit board.
- 1 5. The spindle motor for a slim optical disk apparatus as in claim 4, wherein
- 2 said vacant area is provided at the periphery of said mounting plate.
- 1 6. The spindle motor for a slim optical disk apparatus as in claim 4, wherein
- 2 said vacant area is provided in said mounting plate.
- 1 7. The spindle motor for a slim optical disk apparatus as in claim 1, wherein
- 2 said spindle motor has a raised area which is provided on the periphery of said
- 3 mounting plate, said raised area is corresponding by position to said electric contacts

4 of said circuit board.

1 8. A spindle motor for a slim optical disk apparatus, said spindle motor comprises:

2 a stator;

3 a rotor;

4 a circuit board being within the range covered by said rotor, said circuit board

5 has a plurality of electronic components used on said spindle motor and a plurality of

6 electric contacts for connecting an external connecting piece; and

7 a mounting plate used at least for fixing said circuit board, wherein said

8 mounting plate has a vacant area provided at the periphery of said mounting plate,

9 said vacant area is in correspondence by position with said electric contacts of said

10 circuit board and provides a space required for connecting of said electric contacts

11 with said external connecting piece.

1 9. A spindle motor for a slim optical disk apparatus, said spindle motor comprises:

2 a stator;

3 a rotor;

4 a circuit board being within the range covered by said rotor, said circuit board

5 has a plurality of electronic components used on said spindle motor and a plurality of

6 electric contacts for connecting an external connecting piece; and

7 a mounting plate used at least for fixing said circuit board, wherein said

8 mounting plate has a vacant area provided in said mounting plate, said vacant area is

9 in correspondence by position with said electric contacts of said circuit board and

10 provides a space required for connecting of said electric contacts with said external

11 connecting piece.

1 10. A spindle motor for a slim optical disk apparatus, said spindle motor comprises:

2 a stator;

3 a rotor;

4 a circuit board being within the range covered by said rotor, said circuit board

5 has a plurality of electronic components used on said spindle motor and a plurality of

6 electric contacts for connecting an external connecting piece; and

7 a mounting plate used at least for fixing said circuit board, wherein said

8 mounting plate has a raised area which is provided on the periphery of said mounting

9 plate, said raised area is in correspondence by position with said electric contacts of

10 said circuit board and provides a space required for connecting of said electric

11 contacts with said external connecting piece.